

CAPACITORS WITH RECESSED RIVETS ALLOW SMALLER IMPLANTABLE DEFIBRILLATORS

Abstract of the Disclosure

Implantable defibrillators are implanted into the chests of patients prone to
5 suffering ventricular fibrillation, a potentially fatal heart condition. Critical
components in these devices are aluminum electrolytic capacitors, which store and
deliver one or more life-saving bursts of electric charge to a fibrillating heart. These
capacitors make up about one third the total size of the defibrillators. Unfortunately,
manufacturers of these capacitors have paid little or no attention to reducing the size
10 of these capacitors through improved capacitor packaging. Accordingly, the
inventors devised a unique capacitor lid, or header, assembly that allows size
reduction. Specifically, one embodiment of the header assembly includes two
recesses, each with a depth that allows the head of a rivet (or other fastener) to be
substantially flush, or coplanar, with the underside of the header. Another
15 embodiment includes a single recess to receive two rivet heads. The recesses reduce
the vertical space necessary to ensure separation of the rivets from internal
components of the capacitor and thus allow reduction in the overall height of the
capacitor and size of devices, such as implantable defibrillators, that use them.

"Express Mail" mailing label number: EV019094367US

Date of Deposit: February 26, 2002

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